• 15N0095B1 •

SINUS K
SPARE ES778
USER MANUAL

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R.00

English

• This manual is integrant and essential to the product. Carefully read the instructions contained herein as they provide important hints for use and maintenance safety.
• This device is to be used only for the purposes it has been designed to. Other uses should be considered improper and dangerous. The manufacturer is not responsible for possible damages caused by improper, erroneous and irrational uses.
• Elettronica Santerno is responsible for the device in its original setting.
• Any changes to the structure or operating cycle of the device must be performed or authorized by the Engineering Department of Elettronica Santerno.
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1. OVERVIEW

This manual explains how to configure an ES778 control board used as a "spare" board instead of a ready-made control board mounted on an inverter.

NOTE The minimum software requirement is IK 2.020 or VK 2.020 SW version.

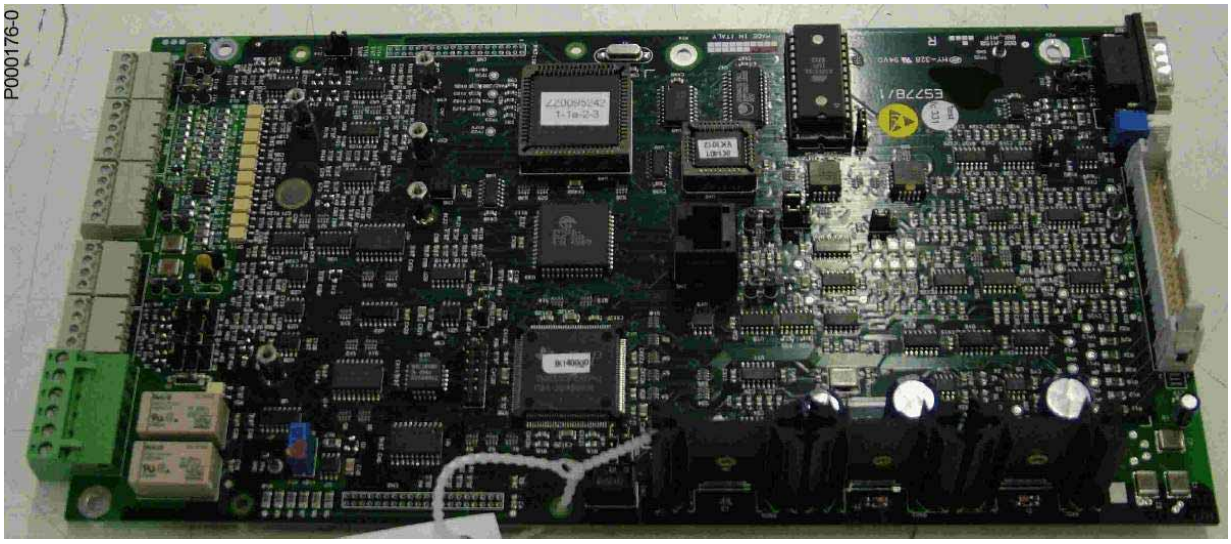
NOTE Every operation carried out after selecting IFDK as the application software is reflected to the VTCK application software and vice versa.

The keypad, the RemoteDrive software or the serial link (Modbus) can be used for the configuration of ES778 control board.

2. ORDER CODE

2.1. ES778 Control Board for Sinus K

CODE	DESCRIPTION	NR
ZZ0095242	ES778 CONTROL BOARD	1



2.2. CONFIGURATION PROCEDURE

When using a spare ES778 control board, the following screen appears at power on:

SERVICE Esc Prv Nxt

Also, the FWD and REV LEDs blink at a time to indicate that the inverter cannot be started up.

The parameters below are to be entered and saved in order to configure ES778 control board and to start the inverter:

Parameter	Factory Setting
Voltage Class	4T
PIN (Part Identification Number)	0020 S12
Current Class	0020

NOTE

The first three values to be entered can be obtained in sequence from the "SPARE CODE" label placed next to the "S/N" label. To view the "SPARE CODE" label, remove the inverter keypad. Example:

5T– 0399– 0366–B–D

Parameter	Value to be Entered
Voltage Class	5T
PIN (Part Identification Number)	0399
Current Class	0366

The remaining two values are not significant for the Sinus K and must not be entered.

After saving these three parameters, the FWD and REV LEDs stop flashing and the inverter gets ready to start.

When the equipment is next powered on, the following screen is displayed:

INVERTER OK [M/P]Cfg Cm Srv

	NOTE	Before starting the inverter, a Restore Default procedure is required. If no Restore Procedure is performed, the following alarm trips when attempting to start up the inverter: A04 Wrong user's par. Alarm A04 above can be reset only after performing the Restore Default.

NOTE

IMPORTANT: After confirmation of the above-mentioned parameters, the inverter is ready to start and no other parameter set can be selected.
For more details, please contact ELETTRONICA SANTERNO Customer Service.

2.3. Using the Keypad

Press the INC (↑) key from the page below:

SERVICE Esc Prv Nxt

The following screen appears (leave unchanged):

Internal code 0

When the INC key is pressed, the following pages appear in sequence:

Voltage class 4T

PIN 0020 S12

Current class 0020

In each page among the pages above, enter the values read from the "SPARE CODE" label. Use the PROG, INC (↑) and DEC (↓) keys. Press SAVE to store the data entered.

NOTE The Voltage Class, PIN and Current Class parameters are to be saved even if their suggested value (i.e. their factory-set value) is correct. If this is not the case, ES778 control board does not quit the Spare mode and the inverter cannot be started.

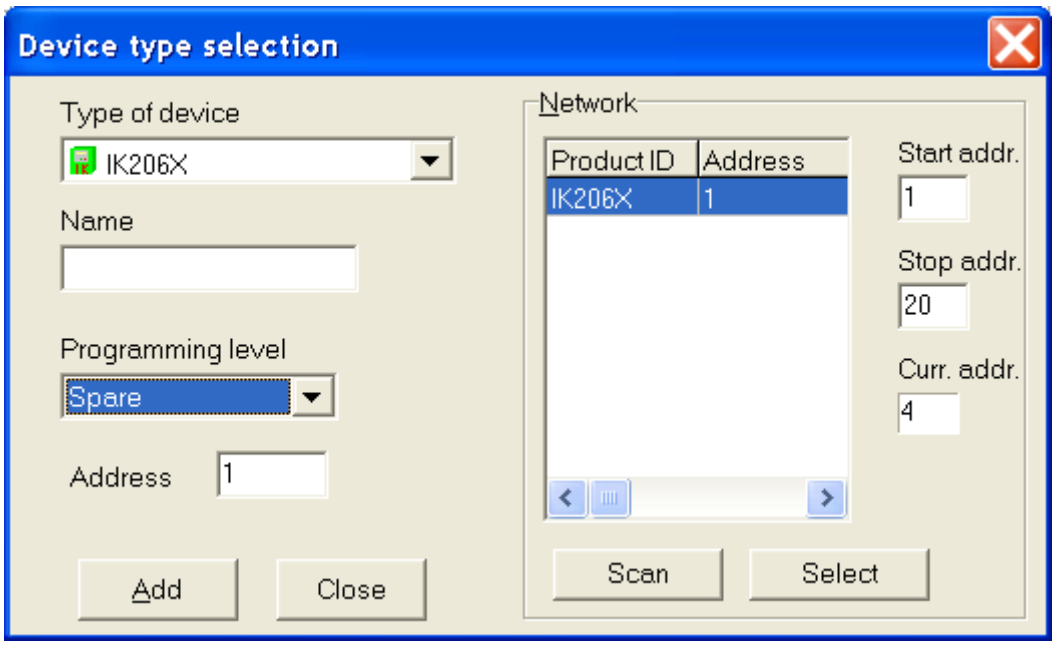
Press the INC (↑) key again. The following screen appears (leave unchanged):

Dead time comp. No [Yes]

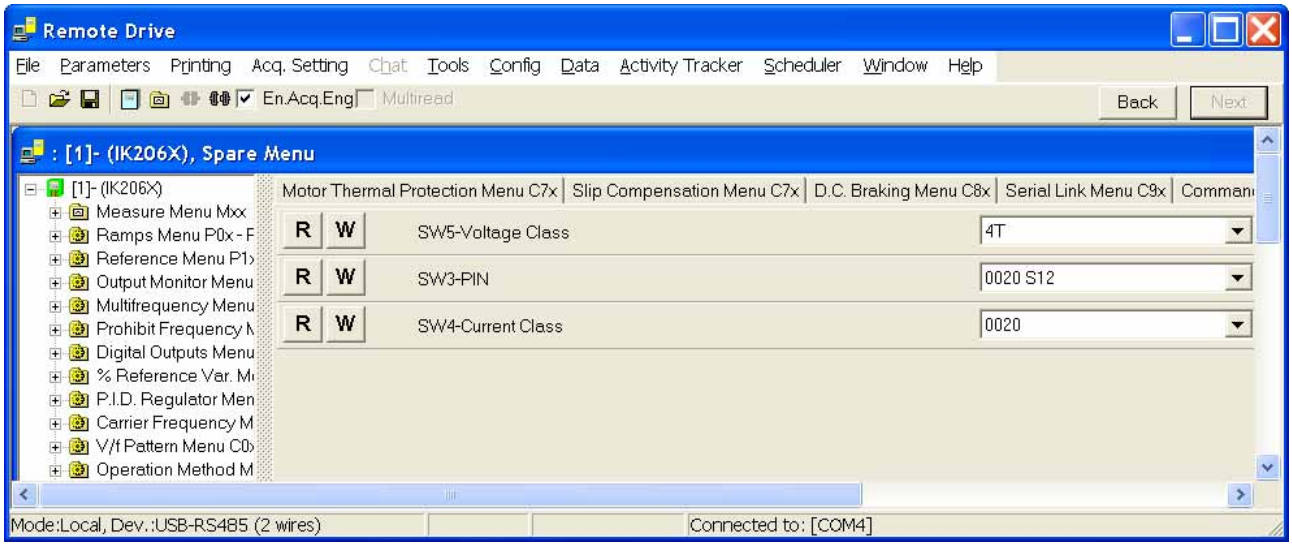
You can access the same screens back by pressing the DEC key.

2.4. Using the RemoteDrive Software

From the "Device type selection" window, select "Spare" in the "Programming level" field.



The "Spare Parameter" menu is enabled among the menus that can be accessed when the "Basic" user level is activated.

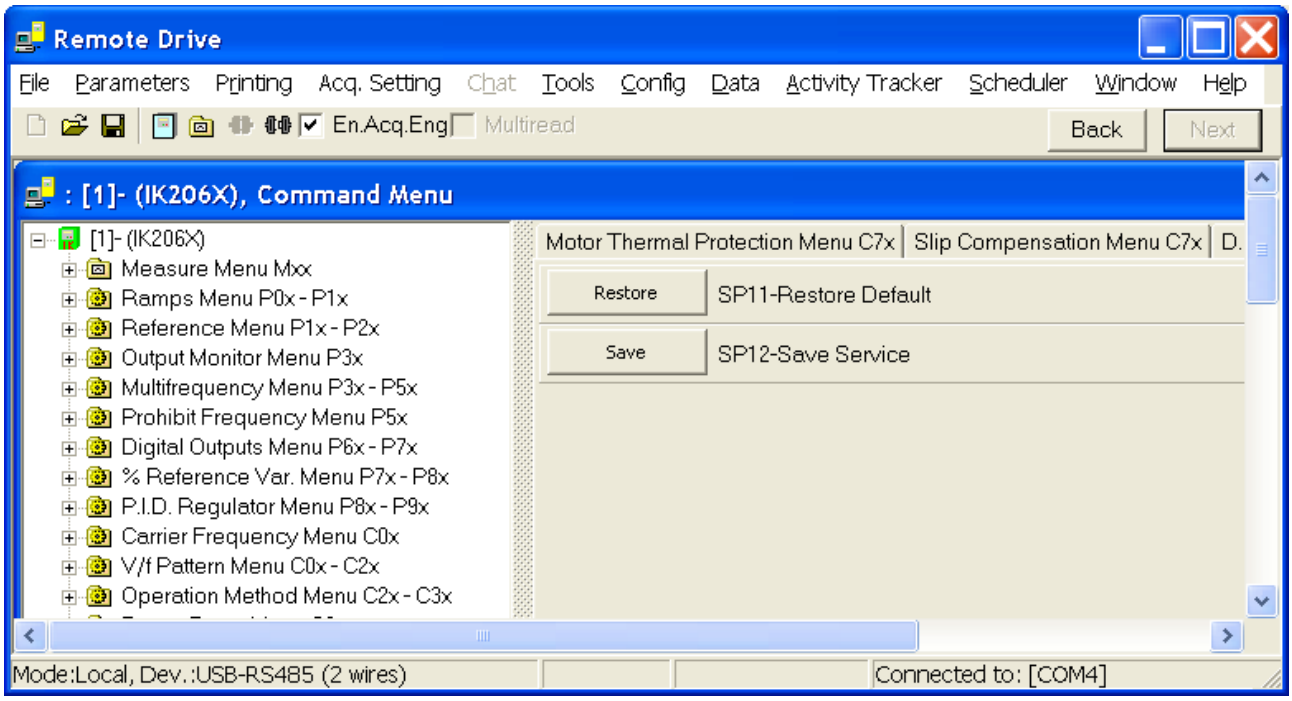


The following parameters can then be set up from the "Spare Parameter" menu:

- SW5 – Voltage Class
- SW3 – PIN
- SW4 – Current Class

NOTE The Voltage Class, PIN and Current Class parameters are to be saved even if their suggested value (i.e. the factory-set value) is correct. If this is not the case, ES778 control board does not quit the Spare mode and the inverter cannot be started.

Parameters are saved by pressing the "Save Service" button from the Command Menu:


Remote Drive
File Parameters Printing Acq. Setting Chat Tools Config Data Activity Tracker Scheduler Window Help
En.Acq.Eng Multiread
Back
Next
: [1]- (IK206X), Command Menu
[1]- (IK206X)
Measure Menu Mxx
Ramps Menu P0x - P1x
Reference Menu P1x - P2x
Output Monitor Menu P3x
Multifrequency Menu P3x - P5x
Prohibit Frequency Menu P5x
Digital Outputs Menu P6x - P7x
% Reference Var. Menu P7x - P8x
P.I.D. Regulator Menu P8x - P9x
Carrier Frequency Menu C0x
V/f Pattern Menu C0x - C2x
Operation Method Menu C2x - C3x
Motor Thermal Protection Menu C7x
Slip Compensation Menu C7x
D.
Restore
SP11-Restore Default
Save
SP12-Save Service
Mode:Local, Dev.:USB-RS485 (2 wires)
Connected to: [COM4]

	NOTE	When the "Spare" programming level is selected and you attempt to change a parameter value, an error message appears, because parameter write is not allowed for ES778 control board in Spare mode. Example of error message:

2.5. Using the Serial Link (ModBus)

2.5.1. Special Parameters (SWxx) (Read/Write)

	Description	Add.(dec)	Add.(hex)	Min.	Max.
SW3	PIN (Part Identification Number)	477	1DD	0	22 for IFDK / 20 for VTCK
SW4	Current Class	478	1DE	0	42 for IFDK / 37 for VTCK
SW5	Voltage Class	479	1DF	0	1

"PIN" table: index (SW3) at address 477 (1DDh)

	PIN		PIN
0	0007	12	0040
1	0014	13	0049
2	0015	14	0067
3	0020 S05	15	0086
4	0020 S10	16	0129
5	0020 S12	17	0162
6	0030 S10	18	0200
7	0030 S12	19	0250
8	0033	20	0399
9	0035	21	0524 (IFDK only)
10	0036	22	0831 (IFDK only)
11	0037		

"Class Current" table: index (SW4) at address 478 (1DEh)

	Current Class		Current Class
0	0005	22	0049
1	0007	23	0060
2	0008	24	0067
3	0009	25	0074
4	0010	26	0086
5	0011	27	0113
6	0013	28	0129
7	0014	29	0150
8	0015	30	0162
9	0016	31	0179
10	0017	32	0200
11	0020	33	0216
12	0023	34	0250
13	0025	35	0312
14	0030	36	0366
15	0033	37	0399
16	0034	38	0457 (IFDK only)
17	0035	39	0524 (IFDK only)
18	0036	40	0598 (IFDK only)
19	0037	41	0748 (IFDK only)
20	0038	42	0831 (IFDK only)
21	0040		

"Voltage Class" table: index (SW5) at address 479 (1DFh)

	Voltage Class
0	2T
1	4T